

What is claimed is:

1. An Her-2/neu plasmid construct having anti-cancer activity which is prepared by inserting a truncated human Her-2/neu gene lacking the intracellular domain into 5 plasmid pTV2 or pCK.
2. The plasmid construct of claim 1, wherein the human Her-2/neu gene has the nucleotide sequence of SEQ ID NO: 2.
- 10 3. The plasmid construct of claim 2, which is pNeu_{TM} (KCCM-10393) or pCK_{TM} (KCCM-10396)
4. The plasmid construct of claim 1, wherein the truncated human Her-2/neu gene further lacks the transmembrane domain.
- 15 5. The plasmid construct of claim 4, wherein the human Her-2/neu gene has the nucleotide of SEQ ID NO: 3.
6. The plasmid construct of claim 5, which is pNeu_{ECD} (KCCM-10394) or 20 pCK_{ECD} (KCCM-10395).
7. The plasmid construct of claim 1, wherein the signal peptide of the human Her-2/neu gene is replaced by the signal peptide of herpes simplex type I glycoprotein D (gD).
- 25 8. The plasmid construct of claim 7, which is pNeu_{TM-gDs}.
9. The plasmid construct of claim 4, wherein the signal peptide of the human Her-2/neu gene is replaced by the signal peptide of herpes simplex type I 30 glycoprotein D (gD).
10. The plasmid construct of claim 7, which is pNeu_{ECD-gDs}.

11. The plasmid construct of claim 1, which further translates a cytokine gene besides the human Her-2/neu gene.
12. The plasmid construct of claim 11, wherein the cytokine gene is selected from the group consisting of granulocyte-macrophage colony-stimulating factor (GM-CSF), FMS-like tyrosine kinase 3 ligand (Flt3L), early T lymphocyte activation-1 (Eta-1), interleukin-12 (IL-12), IL-15 and IL-18.
13. A DNA vaccine for preventing and/or treating cancer, which comprises the plasmid construct of claim 1 as an effective ingredient and a pharmaceutically acceptable carrier.
14. The DNA vaccine of claim 13, which further comprises a cytokine gene expressing plasmid.
15. The DNA vaccine of claim 14, wherein the cytokine gene is selected from the group consisting of GM-CSF, Flt3L, Eta-1, IL-12, IL-15 and IL-18.
16. A method for preventing and/or treating cancer, which comprises the step of administering an effective amount of the DNA vaccine of claim 13.